ADOT PREDESIGN FORUM

by
Brad Olbert, P.E.

May 24, 2005 1:30 PM – 3:30 PM Phoenix Construction Office Training Room 4550 N. Black Canyon Hwy.

Welcome – **Terry Bourland**, forum coordinator from the Predesign Section, welcomed everyone to the third Predesign Forum. This forum is one of the ways that the Predesign Section uses to communicate with consultants and to share ideas. The information presented here is intended to assist both ADOT internally and the consultant community by sharing new procedures, identifying areas of improvement, and promoting best practices in the development of predesign work.

Each of the nearly 60 attendees identified him/herself to the group. Terry introduced the new head of the Predesign Section, Vince Li.

Predesign Overview – **Vince Li** was excited about how ADOT and their Consultants come together to share ideas and learn about ways to improve the predesign development process. He noted that Predesign will try to have forums on a quarterly basis as long as there are enough topics to present. Vince also encouraged us to call ahead with any suggestions for future topics.

There have been many changes recently.

- First and foremost: Predesign is one word. It is not "Pre-Design" or "Pre Design". In addition, there are no longer separate major studies and minor scoping efforts. Everything is under the Predesign umbrella.
- Predesign will be moving shortly to a new location -1^{st} floor west side of the ADOT Engineering Building. We will be occupying all of the area previously known as the Arizona Conference Room space and all of the area to the south.
- Proposition 400 passed which means lots of work ahead of us.
- Predesign On-Call Consultants 27 consultant submittals were made. Selection will be made mid-June. Check the ADOT web site for Consultant selection.
- Primary Predesign Goals include Quality (we need everyone to help us to improve the quality of the scoping process), and Schedule (adherence to the schedule is important but we understand that our work is a discovery process and delays occur).

• **Predesign Reorganization** – In order to handle the anticipated work load and better foster the relationships between our staff and their regional counterparts, Predesign has reorganized its staff to align with ADOT Districts and transportation corridors. There will be four teams. Each team will be comprised of a Team Leader, and a group of Predesign Project Managers (not monitors) as follows:

Team A – Tim Wilson (manager), Billah Khan, Don Gorman, Tami Wollaston, and Jay Morison, will cover the southwestern portion of the state (Tucson and Yuma Districts), as well as the urban projects associated with the 303L and I-17.

Team B – Joe Warren (manager), Jacob De Raadt, Bob LaBrash, Heidi Yaqub, and one unfilled position, will cover the Southeast portion of the state (Globe and Safford Districts), as well as the urban projects associated with the Williams Gateway Freeway, Loop 202, and US 60.

Team C – Paul O'Brien (manager), Chris Moore, Lynn Glover, Marco Fierro, and one unfilled position, will cover the Northwest portion of the state (Prescott and Kingman Districts), as well as the urban projects associated with the South Mountain, I-10 and I-10R.

Team D – Oscar Mousavi (manager), John Gravelle, Prakash Kamdar, Kevin Kozel, and one unfilled position, will cover the Northeast portion of the state (Flagstaff and Holbrook Districts), as well as the urban projects associated with SR 87, SR 51, and Loop 101.

Team members with existing project assignments outside the designated team assignment areas will continue with those assignments until completed.

Each of the new Predesign Team Leaders introduced their team members expressed hot topics that consultants need to be aware of, such as:

Federal Highway Design Exception procedure (see previous Predesign Forum Minutes).

Quality of the AASHTO Reports

Vertical Curve Design Speed Analysis (A new Excel Spreadsheet is available on the ADOT web site).

Changes to 2004 AASHTO Green Book

Valley Overview – **Jim Romero** discussed the changes at **Valley Project Management** (note their name has also changed). Jim distributed their organizational chart and a list of Valley Project Managers, which is also available on the ADOT web site (a copy is attached). Check the web site for changes to the list and who has filled vacant positions.

The old Regional Transportation Plan (RTP) is nearly complete. By 2007, the last few segments will be completed. The new RTP will cover the next 20 years. Management Consultants HDR, PBQD, and DMJM/Harris, were recently selected.

MC 1: HDR – has been assigned the South Mountain, I-10 Reliever, I-10 west of SR 51.

MC 2: PBQD – has been assigned the 303L, and I-17.

MC 3: DMJM/Harris – has been assigned the Williams Gateway, I-10 east of SR 51, US 60 (Grand Avenue), and the system General Purpose lanes. This team will also assist Valley Project Management with Life Cycle Costing.

Scoping effort will be needed for the for the new 5 year program. There will be opportunities to participate. The success of the new program in the public's eyes will be gauged by meeting the deadlines.

The Predesign Portal – Stanley Soesilo presented the new web-based Predesign Portal. In an effort to eliminate the past problems associated with document loss and finding the latest, current reports on any given stretch of highway, documents will be stored electronically in this Web based data base that will be accessible not only to Predesign, but other units of ADOT. With the new Predesign Portal, a set of electronic document folders will be created for each project. These folders will contain all of the development reports and supporting memos including the final completed project documents. The portal will provide a public display of project documents on the internet allowing instant access to the information.

Estimated Engineering Construction Cost (E2C2) – Dean Mees presented an overview of the upcoming Estimated Engineering Construction Cost (E2C2), Release 4.0, which will be available on-line later this fall.

The new release of E2C2 attempts to be a more user friendly program to assist engineers and ADOT management to standardize the cost estimating process. The program is still in the development and beta testing phase. Training will be available when the program is completed. A few of the benefits of the E2C2 process include:

- Compare cost changes at different stages of a project,
- Allows sensitivity analysis of alternatives,
- Creates Cost Estimate Reports for Scoping PAs,
- Provides Bid History information to determine unit prices,
- Project Cost Estimates will be completed on-line.

Project Showcase: US 93 (MP 2-17) – Each open forum, Predesign selects one of its consultant teams to present the results of their recently completed studies. For this session, **David Bender** (AMEC) presented the Project Showcase for US-93 through the last portion of undivided highway left to be studied. In 2004, AMEC completed a Feasibility Study, Design Concept Study and Environmental Assessment for the

realignment of US 93 from MP 2.4 to MP 17.2 located just south of Hoover Dam. Mr. Bender presented a brief overview of the project which involved the realignment of US 93 to remove through traffic from using the dam crossing to a future bridge crossing of the Colorado River. Through traffic is expected to double along US 93 by 2025. Truck traffic is no longer allowed to use the dam crossing for security reasons. An Interdisciplinary (ID) team involving several agencies was used to define the project issues and potential solutions. Mr. Bender identified several items for future project teams to consider during the start up of ID teams. Attached to these minutes is the list of items discussed.

Closure/Wrap Up – **Terry Bourland** thanked those who came and requested consultants call ahead with any suggestions for future topics for the next forum.

Attachments: Agenda, sign-in sheets, and handouts

ARIZONA DEPARTMENT OF TRANSPORTATION PREDESIGN SECTION

Predesign Forum

May 24, 2005 1:30 – 3:30 Phoenix Construction Training Room

AGENDA

Introductions

Welcome (Vince Li)

Predesign Organizational Structure (Tim Wilson, Joe Warren & Oscar Mousavi)

(ALL)

Valley Transportation Group (Jim Romero)

Predesign Portal (Stanley Soesilo)

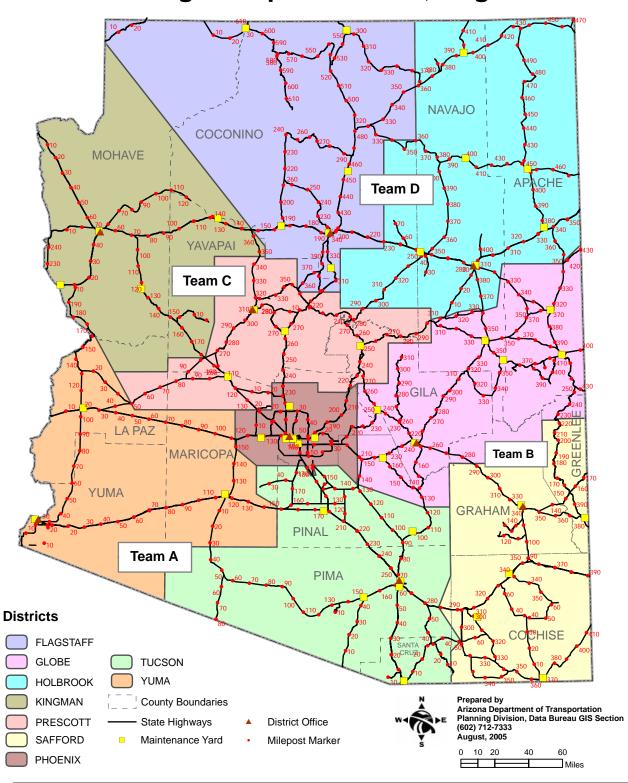
Engineering Construction Cost (E2C2) (Dean Mees)

Project Showcase (US-93) (David Bender)

Other Items

Next Meeting

Predesign Responsibilities, August 2005



Team A	Team B	Team C	Team D
Tim Wilson	Joe Warren	Paul O'Brien	Oscar Mousavi
Billah Khan	Jacob De Raadt	Vacant	John Gravelle
Don Gorman	Vacant	Vacant	Prakash Kamdar
Tami Wollaston	Kamal Ahmed	Lynn Glover	Vacant
Jay Morrison	Heidi Yaqub	Marco Fierro	Kevin Kozel

Administration Vincent Li

PHONE: 602-712-7360

602-712-8992

FAX:

Vincent Li Terry Bourland Candice Orona Marta Raiford 205 S. 17th Ave, MD 605 E Phoenix, AZ 85007

Predesign Responsibilities August, 2005

PHONE: 602-712-7360 FAX: 602-712-8992



Team D: SR 51, Loop 101, SR 87

Team A	Team B	Team C	Team D	Administration
Tim Wilson Billah Khan Don Gorman Tami Wollaston Jay Morrison	Joe Warren Jacob De Raadt Vacant Kamal Ahmed Heidi Yaqub	Paul O'Brien Vacant Vacant Lynn Glover Marco Fierro	Oscar Mousavi John Gravelle Prakash Kamdar Vacant Kevin Kozel	Vincent Li Terry Bourland Candice Orona Marta Raiford





Valley Project Managers

This is a general listing and subject to change. Other statewide project or non-resident project managers may manage some specific spot improvement projects.

<u>Freeway</u>	Contact	Number
I-10, Papago Freeway	Steve Beasley	602-712-7645
I-10, Maricopa Freeway	Jason Harris	602-712-8736
I-10, Maricopa Freeway – Corridor Improvement Study	Jim Romero	602-712-7196
I-17, Black Canyon Freeway - (Phoenix District)	Steve Beasley	602-712-7645
SR 51	Ron McCally	602-712-7646
US 60, Grand Avenue, I-17 to SR 303L	Jason Harris	602-712-8736
US 60, Grand Avenue, Northwest of SR 303L	Statewide PM	602-712-7545
US 60 Superstition Freeway	Khalid Salahuddin	602-712-7215
SR 101L, Agua Fria Freeway	Ron McCally	602-712-7646
SR 101L, Pima Freeway	Ron McCally	602-712-7646
SR 101L, Price Freeway	Mike Bruder	602-712-6836
SR 143, Hohokam Freeway	Jim Romero	602-712-7196
SR 153, Sky Harbor Freeway	Ron McCally	602-712-7646
SR 202L, Red Mountain Freeway - Except University to Southern	Mike Bruder	602-712-6836
University to Southern	Steve Beasley	602-712-7645

SR	202	L,	
Sar	itan	Fre	eway

Estrella Freeway

I-10 /Wildhorse Pass Traffic Interchange	Ron McCally	602-712-7646
I-10 to Dobson Road, including Santan / Price Traffic Interchange	Ron McCally	602-712-7646
Dobson Road to Gilbert Road	Jason Harris	602-712-8736
Gilbert Road to Baseline Road	Jim Romero	602-712-7196
SR 202L, South Mountain Freeway	Mike Bruder	602-712-6836
SR 303L,	Stave Reaciev	602-712-7645

Valley Project Management Current ORG Chart

ASSISTANT STATE ENGINEER Steve Jimenez 602) 712 - 7559

Steve Beasley 602-712-7645

TRANSPORTATION MANAGER Jim Romero (602) 712 - 7196

ADMIN ASSISTANT Kay Alberty (602) 712 - 7186

SENIOR PROJECT	SENIOR PROJECT	SENIOR PROJECT
MANAGER	MANAGER	MANAGER
Mike Bruder	Vacant	Vacant
(602) 712 - 6836	(602) 712 - 7545	(602) 712 - 7545
PROJECT MANAGER	PROJECT MANAGER	PROJECT MANAGER
Vacant	Jason Harris	Khalid Salahuddin
(602) 712 - 7646	(602) 712 - 8736	(602) 712 - 7215
PROJECT MANAGER	PROJECT MANAGER	PROJECT MANAGER
Steve Beasley	Ron McCally	Vacant
(602) 712 - 7645	(602) 712 - 7646	(602) 712 - 7645

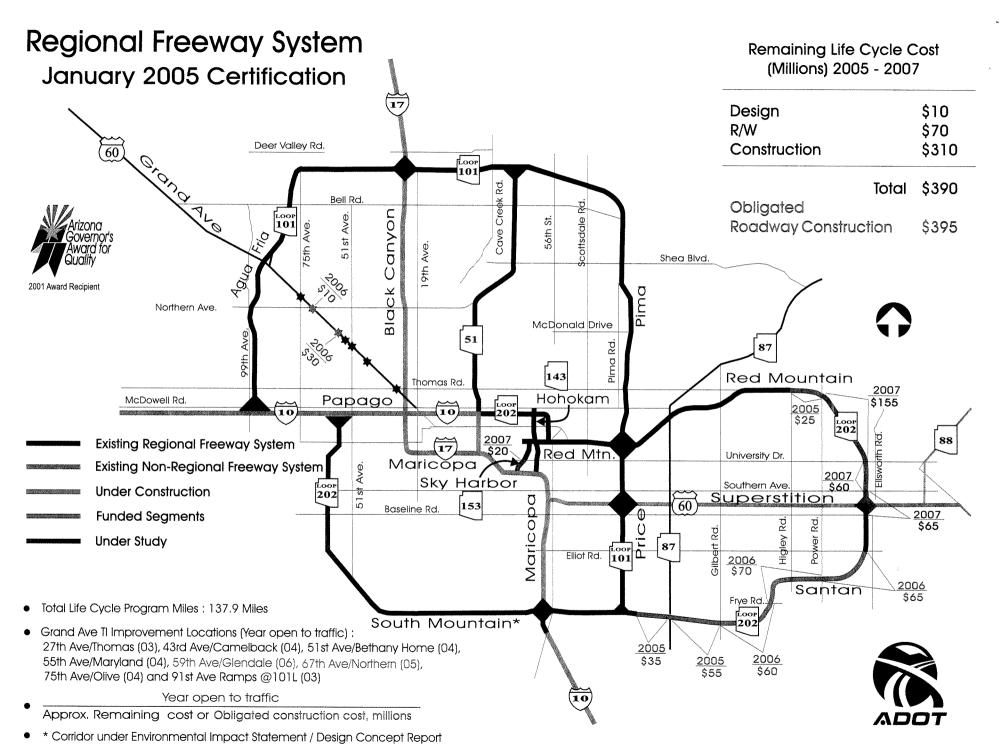


Table 8-1: Freeway and Highway Number of Through Lanes, Through Lane Additions, Costs and Phasing

Facility	Segment	Length		Numbe	er of Through Lane:	s in Each C						Regional C					Tota	al Regional Co	sts*		nase
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	Sub-total I-8	68							•	•	•	•	•	•	•	•	•	•	•		
1-10	Yuma County to Sun Valley Parkway	39	2	0	2	0	G	0	-	•			-			-	-		-		
	Sun Valley Parkway to SR 85 SR 85 to Loop 303	3 12	2 2	0	2 3	0	0 1	0	-	:	:	106	:	:	:	•	106	:	106	IV	
	Loop 303 to Dysart Rd Dysart Rd to Loop 101	5 6	2 3-4	0	4 4-5	1	2	1	-	66 35	-	-	-	28 22	-	-	66 35	28 22	94 57	ii 	Ħ
	Loop 101 to 1-17	7	3- 4	1	5	1	1	0	79							-	35 79		79	")f
	I-17 to SR 51	5	3-5	1	3-5	1	ò	ō	-	•	•	-	-	-	-	-	-	•	•		
	SR 51 to 40th,St (CD Roads) 40th St to Baseline Rd (CD Roads)	3 6	3-6 3-6	1	3-6 3-6	1	CD	0	380	120	:	-	:	:	•	:	120 380	:	120 380	if I	
	Baseline Rd to Loop 202/Santan	6	3-4	1	4-5	1	1	0	-	53	•	•		•	-	-	53		53	11	
	Loop 202/Santan to Riggs Rd Riggs Rd to Pinal County		2	0	3 2	0	0	0	23	<u> </u>		<u>:</u>	23	<u> </u>		<u>:</u>	23	23		Ð	If
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	Loop 303 to Loop 202/South Mtn Sub-total I-10R	13 24	0	0	3	0	3	0	10	60	21	<u>654</u> 714					722 805		722 805	IV	
1-17	Yavapai County to New River Rd	10	2	0	3	0	0		_			_				_					
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	Loop 101 to Arizona Canal (between Peoria & Dunlap Ave)	6	3	1	4	1	1	0		53						-	53		53	Ħ	
	Arizona Canal to McDowell Rd McDowell Rd to I-10 (West)	7	3-4 3	1 0	5-6 3	0	2 0	0	-	- 40 -	960 -		:	•	-	-	1,000		1,000	111	
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	Agua Fria: I-10 to US 60/Grand Ave (Note 2) Sub-total Agua Fria	<u>10</u> 22	3	U	•	1	,	1	-			85 187	-		<u>53</u>	64	187	<u>53</u>	<u>138</u> 304	IV	113
	Pima: 1-17 to SR 51 Pima: SR 51 to Princess Dr	7 6	3	0	4	1	1	1		:	•	59 51	-	37 29		:	59 51	37 29	96 80	IV IV	H U
	Pima: Princess Dr to Shea Blvd Pima: Princess Dr to Shea Blvd Pima: Shea Blvd to Loop 202/Red Mtn	4	3	0	1	1	1	1		94	:	34	22 61		:	:	34 94	22 61	56 155	iv	; ;
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	Sub-total Loop 101	66							•	94	•	382	136	66	53	64	476	319	795		
Loop 202	Red Mountain: I-10/SR 51 to Rural Rd	7	3-4	1	4-5EB, 3-4WB	1	1 E8	0	67				_		-		67	_	67	1	
	Red Mountain: Rural Rd to Loop 101	2	4	1	5	1	1	0	10 '	29	•	•	•	•	•	-	39	•	39	11	
	Red Mountain: Loop 101 to Gilbert Rd Red Mountain: Gilbert Rd to Higley Rd	6 5	3 3	0	4	1	1	1	-	51	:	42	. 32	:	27		51 42	32 27	83 69	II IV	t IX
	Red Mountain: Higley Rd to US 60/Superstition Sub-total Red Mountain	<u>10</u> 30	0	0	4	1	1	1	77	80		85 127	32		27	<u>52</u> 52	<u>85</u> 284	<u>52</u> 111	<u>137</u> 395	N	IV
	Santan: I-10 to Dobson Rd	5 7	3	0	4	1	1	1				43		27			43	27	70	N	Ш
	Santan: Dobson Rd to Val Vista Rd Santan: Val Vista Rd to US 60/Superstition	7 11 23	0	0	:	1	1	1	-	<u>.</u>	<u> </u>	59 93		40	-	55	59 93	40 55	99 148	iv IV	 V
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Table 8-1: Freeway and Highway Number of Through Lanes, Through Lane Additions, Costs and Phasing (continued)

Facility	Segment	Length (miles)	Cui	imber of Fr	eeway Throug Pl	h Lanes in E	ach Direct New	ion_ Lanes				Regional Co	osts [†] (illiona)					tal Regional C			nase matruction)
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SR 51	Loop 101/Pima to Shea Blvd	6	3	0	4	1	1	1	•	•		51	32		-		51	32	83	īV	1
	Shea Blvd to Loop 202/Red Mtn Sub-total SR 51	16	3-5	1	3-5	1	0	0				<u>-</u> 51	32	 -	•		<u>.</u> 51	32	83		
SR 71	Yavapai County to US 60	5	1	0	1	0	0	0			•	•	•		-	-	-		-		***************************************
SR 74	US 60/Grand Ave to Loop 303	25	1	o	1	0	0	0					-				-	• .			
	Loop 303 to I-17 Sub-total SR 74	- <u>5</u>	1	0	1	0	0	0		:		:		:	:		:	•	•		
SR 85	I-10 to Hazen Rd	5	1-2	0	3	0	0-1	0	50	•			•		-	_	50		50	· · · · · · · · · · · · · · · · · · ·	
	Hazen Rd to I-8 I-8 to Pima County	32 32	1-2 1	0	2 1	0	0-1 0	0	40	<u>.</u>		<u>:</u>	-	<u>:</u>	-	<u>. </u>	40	<u>.</u>	40	ì	
	Sub-total SR 85	69							90	•	•	•	•	•	•	•.	90	•	90		
SR 87	Gila County to Shea Blvd Shea Blvd to Loop 202/Red Mtn	34 12	2 2	0	2 2	0	0	0	-	-	-		:	•	-	:	•	•	•		
	Loop 202/Red Mtn to Pinal County Sub-total SR 87	18 63	2	Ó	2 .	Ŏ	ō	ō				-	:	:	:	:	:	÷	:		
SR 88	Pinal County to Gifa County	33	1	0	1	0	0	0	-	-	•	+	•	-				-	•		
SR 143	Hohokam; McDowell to I-10	4	2-3	0	2-3	0	0	0	-	•	•	-	-		-	-	•	-	•		
SR 153	Sky Harbor Expressway	2	3	0	3	0	0	0	•	-	-	-	-	•	-	•	•	-	•	······································	
SR 238	Buchan to Pinal County	11	1	0	1	0	0	0	•	•		-	-	•	•	•	-	_	•		
SR 347	Maricopa Rd: I-10 to Pinal County	6	2	0	2	0	0	0	•	•	•	•	-	•	•	•	•	-	•		
US 60	La Paz County to Wickenburg	31	1-2	0	1-2	0	0	0	•	-	-	•	•	•		•	•		•		
	Grand Avenue: Wickenburg to Loop 303 Grand Avenue: Loop 303 to Loop 101	28 10	2	0	2 3	0	0	0	٠		-	-	-				-	•			
	Grand Avenue: Loop 101 to Van Buren St (includes grade separations at 51st, 35th & 19th Ava)	11	2-3 2-3	ō	3	0	0-1 0-1	0	39 30	64 		97	<u>.</u>	<u>.</u>	<u> </u>		103 147		103 147	il I to IV	
	Sub-total Grand Avenue	49	21						69	84	-	97	•	•	•	•	250	-	250		
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	Superstition: Val Vista Dr to Power Rd Superstition: Power Rd to Crismon Rd	‡	3 3	0	5 3	1	2 0	1	50 -	:	:	:	35	-	:	-	50	35	85	, I	1
	Superstition: Crismon Rd to Meridian Rd Sub-total Superstition	<u>2</u> 	2-3	0	3-4	1	1	1	59	<u> </u>	18	.	35		13		<u>18</u> 77	13 48	31 125	C 10	101
	Sub-total US 60	103							128	84	18	97	35	•	13	•	327	48	375	± .	
US 93	Yavapal County to Wickenburg	3	1-2	0	1-2	0	0	0	•		•	<u>.</u>	-	-		•	•	-	- (
WGF	Loop 202 to Ellsworth Rd Ellsworth Rd to Meridian Rd	2	0	0	3	0	3	0	2	40	113	•	•	•		•	155	•	155	. JI)	
	Sub-total Williams Gateway Freeway	_ 3	U	U	3	0	3	0	- 2	<u>10</u> 50	<u>160</u> 273	•	 -				170 325		170 325	111	
TBD	Wickenburg Bypass	TBD	0	0	2	0	2	0	27	•	•	-	•	-	•	•	27	-	27	ŀ	
	R/W protection for 303L (extension south of MC 85) and SR 74 (US 60 to 303L)	TBD								-	•	*	•	•	•	•	•	-	100		
Total				·····					\$1,605	\$2,332	\$1,492	\$1,742	\$308	\$183	\$170	t100	67 474	****	****		
	copa Association of Governments, 2003								≯ 1,0U3	74,332	₹1,492	\$1,/42	9004	\$183	\$170	\$199	\$7,171	\$860	\$8,131		

CD: Collector Distributor Roads

HOV: High Occupancy Vehicle Lanes

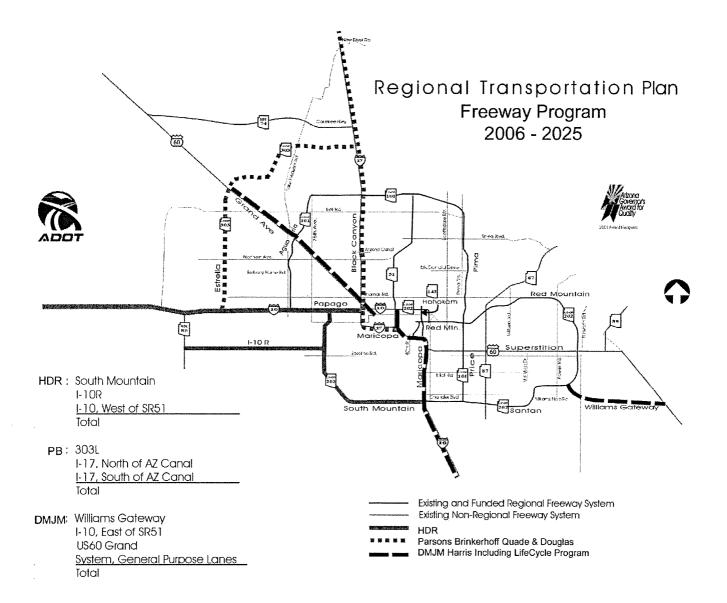
GP: General Purpose Lanes

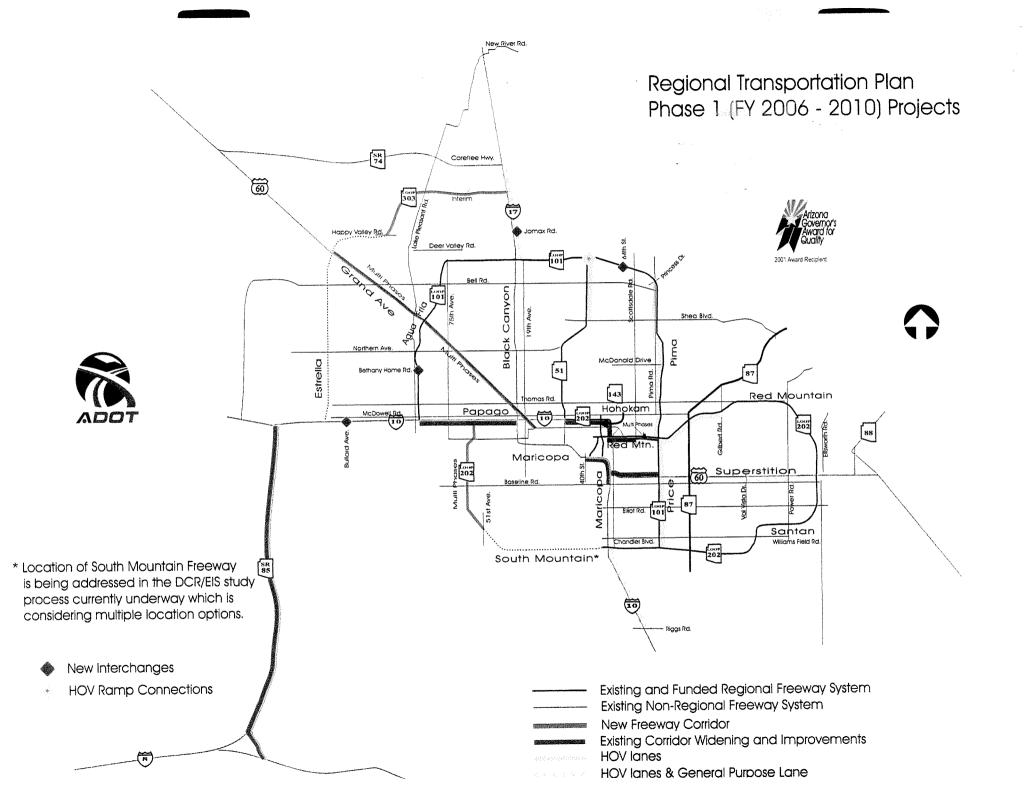
TBD: To be determined in future studies

Notes: (1) Cost estimates listed above are preliminary and subject to change in the design process. Cost estimates for new or improved interchanges on existing freeways or highways are listed separately, in Table 8-2.

(2) includes funding for auxiliary lanes from Bell Road to Northern Avenue.

(3) Loop 303 currently has one arterial lane in each direction in this section.





Estimated Engineering Construction Cost





Estimated Engineering Construction Cost

Application Objectives

• The E2C2 application was developed with the primary objective of providing an efficient way of preparing construction cost estimates and becoming aware of estimating trends which will assist us in improving the accuracy early on in the process.



Arizona Department of Transportation Program & Project Management Lotimated Engineering Construction Cost

Estimated Engineering Construction Cost

Initial Concept

• The initial concept for the application began in 2002. A team was assigned the task of designing a user friendly application that would assist the engineers and management in standardizing and managing the cost estimate process. Working together with the different user groups, gathering the process requirements, E2C2 was developed.



Estimated Engineering Construction Cost

Development Life Cycle

- Define User Requirements
- System Design Review
- Development & Unit Testing
- User Beta Testing.
- User Training Material.
- On-call production support.
- Next release (New functionality)



E2C2 Benefits



Estimated Engineering Construction Cost

Cost Estimating Tool

- The ability to compare and detect cost changes at each stage:
 - Bid Item level.
 - Summary Level.
 - Itemized Cost Variance Report produced when requesting a funding change at the PRB.
- Can enter "What If" scenario's (Alternative)
- Creates the Estimate Report to insert in the Scoping PA.
- Bid History information available to determine an estimated current unit price.
- Validates the use of current Bid & Generic Items.
- Use existing like project estimates as a guide for future projects.



Estimated Engineering Construction Cost

Consistency in Cost Estimating Procedures

- Standardized process for developing the ADOT Cost Estimates.
- Training tool for new employees
 - Knowledge and experience is transferred from experienced employees.
- Quality information
 - Accurate consistent cost estimate information early in the design process may allow more projects to be funded.
 - Inaccurate estimates forces other projects to proceed unfunded or canceled.
 - Provides a system to track variations in the process.
- Efficiency
 - The ability to analyze the cost estimate data from individual's desktop.
 - The ability to obtain and report the information more efficiently to other groups.



Estimated Engineering Construction Cost

Centralized Data Repository Current & Historical Information

- Eliminate the need for multiple copies of the same information by different groups.
- Information available on demand.
- Information can be integrated with other related sources such as:
 - Advantage (Actual Cost, Project Name, Type Of Work, Etc.)
 - PBM (Funding Source Pat Stone)
 - FAST (Construction Cost)
 - PM Report
 - PRT
 - Data Warehouse



E2C2 Release 4.0



Release 4.0 New Features

- Estimates completed on-line.
 - Consultants & ADOT
 - Eliminate EXCEL Spreadsheet
 - No more text file to manipulate
- Project Manager can monitor progress as estimate is being developed.
- Items with a percent are calculated instantly
- Running estimate totals available as estimate is being developed.
- Validation done as estimate is developed.
- E-Mail notifications sent to team as required.
- Data access secured.

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Cost Estimate Totals

.CS: H436701C Type of E		-146		rsion:	Segment:	Alternation	
nt Total Amount: 4,806,869.00 Total Construction	Cost: 5,741,623.00	Programmed: 5,12		Control Cartering Control Cartering Control	SSS STATE CONTINUES CONTIN	nce: -12% Total Proje	ct Cost: 5,741,623.0
RunningTotals - Microsoft Internet Explorer	<u>-101</u>	xJ[id]	Sh	ow Other Cost	Sh	ow Running Totals	
		→ PA	RTA				
Recalculate Totals			U.M	Quantity	Unit Price	Total Rem	arks User Ins D
Status: ACCEPTED						4,566,224,00	Ins D
PROJECT WIDE NON-BID ITEMS	868,604,00					44,251,00	
Val Vista/SR 387	4,566,224.00					78,333,00	Ins D Ins D
Bid Items Part B	66,150.00				a*	118,061.00	Ins D
Status Group Total:	5,500,978.00		EACH	8,00	250.00	2,000.00	Ins D
Status: DISAPPROVED			L.FT.	96.00	18.00	1,728.00	Ins D
West Leg	44,251.00		EACH	8.00	160.00	1,280.00	Ins C
Status Group Total:	44,251.00	EL W/TYP III/I\				towns and the second	
Status: IN PROCESS			24'L1'	36.00	25.00	00.000	Ins D
Traffic Signal	118,061.00	CHAR.,TYP	SQ.FT.	39.00	27.00	1,053.00	Ins D
Status Group Total:	118,061.00	astic) (Alkyd)	L.FT.	3,000,00	1.00	3,000.00	Ins D
Status: SUBMITTED		(White)	L.FT.	3,000.00	0.10	300,000	Ins D
East Leg	78,333.00		EACH	1.00	600.00	600.00	
Status Group Total:	78,333.00		EACH	4.00			Ins D
Total Construction Cost	5,741,623.00		1		4,000.00	16,000.00	Ins D
Programmed	5,123,000.00		EACH	1.00	300.00	300.00	Ins D
Difference Percent Difference	-618,623.00 -12%		EACH	4.00	1,400.00	5,600.00	Ins D
			EACH	4.00	450.00	1,800,00	Ins D
Other Project Cost	0.00	_	EACH	1.00	1,000.00	1,000,00	Ins D
Total Project Cost	5,741,623.00		EACH	1.00	1,200.00	1,200.00	Ins D



Estimated Engineering Construction Cost

Q/A

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